



SECTION 2 CHAPTER 2

ELEVATED SURFACES SAFETY

Purpose This chapter describes the policy for working safely on elevated surfaces with regard to fall protection.

Scope These regulations apply to all Company employees and Contractors.

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Identifying Elevated Surfaces

Definition

An elevated surface is **ANY** area where work is to be performed that is four (4) feet or more above ground level or the adjacent floor. Additionally an elevated surface can be a work area above dangerous equipment regardless of height.

Examples

Elevated work surfaces commonly encountered in this industry include, but are by no means limited to, the following:

- Rig floors (**When floor is down, handrails must be in place**)
- Tubing board, rod basket, other parts of the rig mast
- Overhead loading facilities
- Pumping units
- Ladders and stairways
- Tanks/Pits

Personnel Responsibilities

Purpose

This document defines:

- the responsibilities of managers, supervisors, and employees
- training requirements
- requirements for planning rescues



Manager's responsibilities

The manager will ensure that:

- all personnel are trained on the regulations of elevated surfaces
 - all jobs are pre-planned (JSA) before starting work
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Supervisor's responsibilities

The supervisor will:

- ensure that all personnel assigned to work on an elevated surface uses any required personal fall protection equipment
 - ensure that all personnel working at elevations over four feet are provided fall protection
 - verify that fall protection equipment is available and in safe working condition
 - pre-plan all jobs (JSA)
 - designate a qualified person to monitor the safety of other employees with regard to:
 - recognizing fall hazards
 - warning employees if unaware of fall hazards or is acting in an unsafe manner
 - being on a safe working surface and in visual sight
 - being close enough for verbal communication
 - not having other assignments to distract from the monitoring function
 - ensure that employees are trained in the use, limitations, inspections, and rescue procedures
 - keep training records on file
 - provide for emergency rescue in the case of a fall
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Employee's responsibilities

Employees will:

- understand the potential hazards of elevated surfaces
- understand the use and limitations of fall protection equipment
- pre-plan (JSA)
- use all required fall protection equipment
- inspect all equipment before use
- report defective equipment immediately to their supervisor

Accident Investigation

All accidents and significant incidents will be reported and investigated to determine the root cause and prevent reoccurrence. Changes determined through the investigation to the fall protection plan will be implemented utilizing the Management of Change process.



Required training

All employees that will be subject to utilize fall protection will be competent and trained in the curriculum that has been developed by the company. This includes:

- the recognition of fall hazards and how to minimize fall hazards in the work place
- the correct procedures for maintaining, disassembling, and inspecting the fall protection systems (**Do not disassemble the SALA Block**)
- the use and operation of fall arrest systems
- the correct procedures for handling and storing fall protection equipment and material

Training will be conducted:

- at the time of hire
- as needed due to changes in the workplace (equipment or procedures) and fall protection systems
- as needed to correct an employee's inadequate understanding of previous training or deficiencies in training

Training must be documented in writing. Training records will be kept at the yard where the employee works. The training records will include:

- Employee's Name
 - Date of training
 - Signature of employee
 - Signature of trainer and date of training
 - Employee's and instructor's initials on missed questions to document remediation to ensure understanding
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Making rescue plans

The supervisor will:

- plan for emergency rescues before the job begins (JSA)
 - provide prompt rescues **OR** ensure that employees are able to rescue themselves in the event of a fall
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Methods of Fall Protection and Their Application

Purpose This document lists the types of fall protection and guidelines for determining when to use them.

Types of fall protection

Fall protection systems include:

- guardrail systems
- personal fall arrest systems
- warning line systems
- safety monitoring systems
- controlled access zones (Controlled access zones are not utilized in normal operations within Gravity Oilfield Services. In the event any zones require controlled access, verbal instruction and posted signage will precede any operation)

All fall protection systems in place must meet the ANSI and OSHA 1910.132 (c) and 1926.501 requirements. When purchasing equipment and materials for use in the fall protection systems, requirements from ANSI and OSHA must be met.



When to use fall protection

Every elevated work surface requires the use of some form of fall protection. In some circumstances more than one method could be used.

IF employees or contractors are...	THEN...
Working on any elevated surface, more than 4ft above the ground. (Example: Rig floor)	Erect a standard guardrail system with toe boards. (42" rail with mid-rail and 4" toeboard)
Accessing an elevated surface by a stairway with 4 or more risers	It must be equipped with standard stair railings
Working on any elevated surface where heights are greater than 6 ft. without a guardrail or net	Secondary fall protection must be utilized
Working from certified platforms raised by inspected forklifts, cranes, scissor lifts, or hoists	They must use a full body harness connected to the platform
Inspecting, investigating, or assessing the elevated work area either before beginning or after completing the work	They must have fall protection as if the work was in progress
Working on a level below an elevated work surface	They are in a danger zone beneath and extending in a 10 ft radius around the elevated area-they are required to wear hard hats
Working on a level above others	They will secure tools and equipment and keep them away from the edge of the elevated surface

Designing Fall Protection Systems

Purpose This document describes the requirements for various components of fall protection equipment.

Developing a personal fall arrest system

A fall arrest system typically includes:

- self retracting lifeline (SRL)
- anchorage
- connectors
- full body harnesses (**Belts are not acceptable**)

It may also include a:

- deceleration device
- lanyard
- suitable combinations of the above

Fall arrest systems must:

- limit the arresting force on the employee to 1800 pounds when a body harness is used
- be so that an employee can not free fall more than 6 feet **OR** contact any lower levels
- bring the employee to a complete stop
- limit the deceleration distance to 3.5 feet
- have sufficient strength to withstand twice the potential impact energy of an employee free falling 6 ft. **OR** the free fall distance permitted by the system, whichever is less

Anchoring fall arrest equipment

Anchorage used to attach fall arrest equipment must be:

- independent of any anchorage used to support or suspend platforms
- used under the supervision of a qualified person

Anchorage must be:

- capable of supporting at least 5,000 pounds per attached employee **OR**
- designed, installed, and used as part of a complete personal fall protection system that maintains a safety factor of at least 2

IF a fall arrest system is used, **THEN** rig the system to allow the employee to move only to the edge of the walking/working surface.

Using connectors

Connectors must:

- be made of drop forged, pressed, or formed steel or equivalent materials
- have a corrosion-resistant finish
- have smooth surfaces and edges to prevent damage to interfacing parts of the system

Use D-rings and double locking snap hooks that:

- have a minimum tensile strength of 5,000 pounds
- have been load-tested to a minimum tensile strength of 3,600 pounds without cracking, breaking, or being permanently deformed

Using a full body harness

Only use full body harnesses and components for employee protection. Do **not** use them to hoist materials.

Attach lanyards and or lifting lines to the back dorsal D ring of the full body harness.

Harnesses must limit the arresting force on the employee to 1800 pounds.

Using a deceleration device

Deceleration devices are used to dissipate or otherwise limit the energy imposed on an employee during fall arrest. Deceleration devices can include but not limited to:

- rip-stitch lanyards
 - specially-woven lanyards
 - tearing or deforming lanyards
 - counter weights
 - self-retracting lifelines
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Using lanyards and lifelines

Lanyards and lifelines must:

- be protected from cuts and abrasions
- have a minimum breaking strength of 5,000 pounds

IF using...	THEN...
horizontal lifelines, (designed by Engineer)Only	install, and use the lifeline: <ul style="list-style-type: none"> • under the supervision of a qualified person OR • as part of a personal fall arrest system that maintains a safety factor of at least 2
vertical lifelines,	attach each employee to a separate lifeline
self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet or less,	they must be able to sustain a minimum tensile load of 3,000 pounds when fully extended
lanyards which do not automatically limit free fall distance to 2 feet or less,	the lifeline must be able to sustain a minimum tensile load of 5,000 pounds when fully extended

Inspecting and Maintaining Fall Protection Equipment

Purpose

This document outlines the requirements for:

- inspecting fall arrest systems
- tagging fall protection equipment
- storing fall protection equipment

Inspecting fall arrest systems

Inspect all personal fall arrest systems before each use for:

- strength to provide the required support
- wear
- damage
- defects
- other deterioration
- proper fit and proper counterweight on assists

Remove all defective components from service.

IF the fall arrest system...	THEN...
will be used to support a combined person and tool weight greater than 310 pounds,	modify the system to provide adequate support for the heavier load
or components have been subject to shock loading,	<ul style="list-style-type: none"> ● remove the system and/or components from service ● do not use them until they have been recertified by an authorized vendor
has been subjected to an impact load	<ul style="list-style-type: none"> ● remove the system and/or components from service



**Required
monthly
inspections**

The Rig Supervisor and derrick worker will inspect all fall protection equipment monthly and record inspection results on Rig Inspection Form. Each Area will keep inspection records on file for use in safety audits.

**Storing fall
protection
equipment**

Store fall protection equipment in dedicated storage areas to keep the equipment clean, dry, and free from:

- oils
 - chemicals
 - paint
 - excessive heat
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Policy Draft

- This policy was written by the VP of HSE whom posses several years of HSE field and administrative experience in the Oil and Gas industry.